Committee on Earth Observation Satellites

Gender diversity and competency analysis in learning geospatial technology and applications

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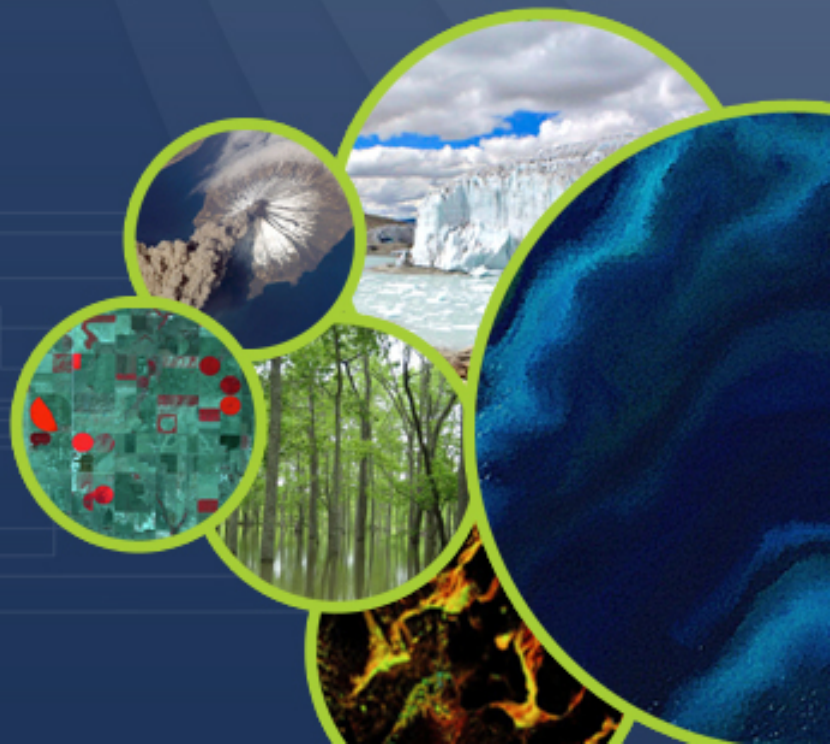
CEOS WGCapD-9 Annual Meeting
Section # 4: Agenda Item # 5
Working Group on
Capacity Building & Data Democracy
Sunnyvale, California March 09–12, 2020



Contents

Part 1:

Gender Diversity in learning GSTA in AP Region

Part 2:

Survey based Study on Competency in STEM

Part 3:

Recommendations

UNISPACE+50

Thematic Priorities

7: Capacity Building for the 21st Century

- ***Enhance existing partnerships and forge new ones to strengthen and deliver targeted capacity-building and technical advisory activities based on needs assessments.***

- ***Promote efforts to encourage Science, Technology, Engineering and Mathematics (STEM) education, especially for women in developing countries.***

25 Years CSSEAP

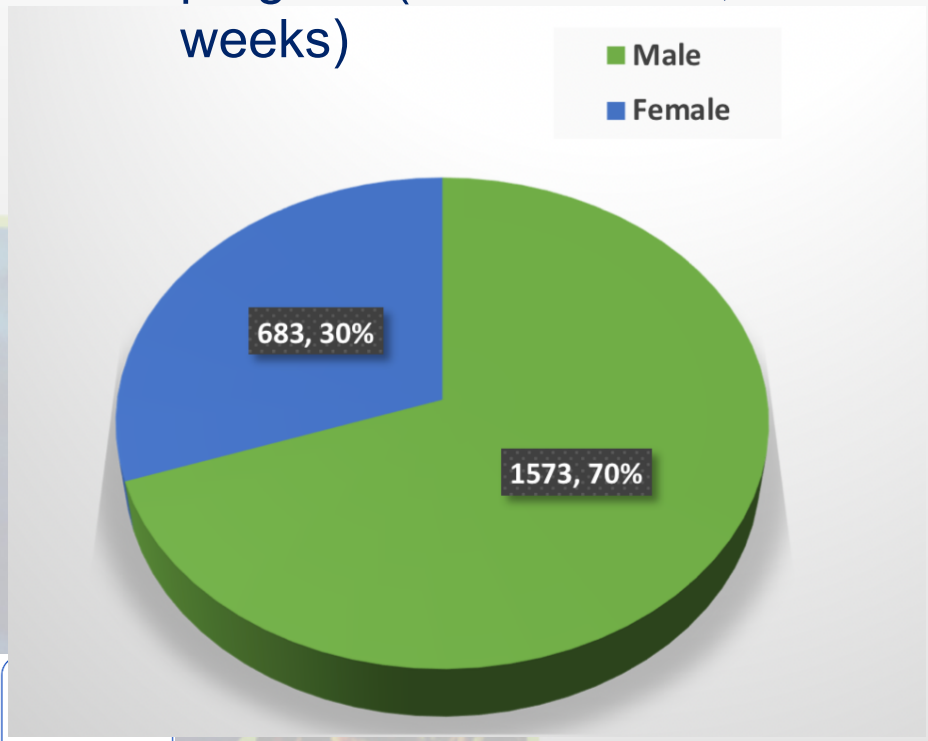
What do UN-RCs offer?

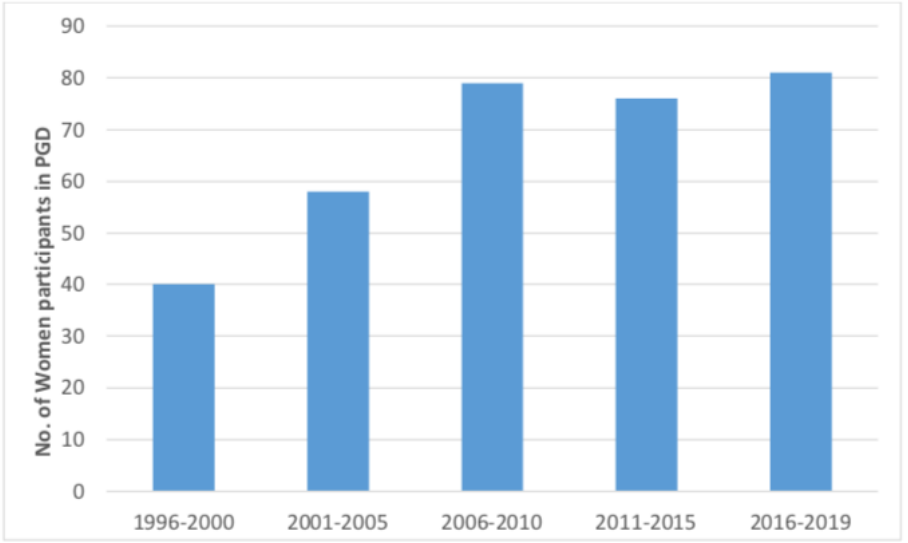
Centres / Programme	ARCSSTE-E (Nigeria)	CRASTE-LF (Morocco)	CRECTEALC (Brazil/Mexico)	CSSTEAP (India)	RCSSTEWA (Jordon)	RCSSTEAP (China)
RS&GIS	✓	✓	✓	✓	✓	✓
SATCOM	✓	✓	✓	✓	✓	✓
GNSS	✓	✓	✓	✓		✓
Micro Sat. Tech./ Small Sat. Mission				✓		✓
Space Law & Policy			✓	*		✓
SAS & Space Science	✓		✓	✓	✓	
SATMET	✓	✓		✓	✓	

** Introductory lectures in all PG courses*

Gender Diversity - Overall

- ***Two formats of CSSTEAP training:***
  - ‘Train the Trainers’ program (long-term 9 month PGD)
  - ‘Skills development/exposure’ program (theme based; 2-4 weeks)





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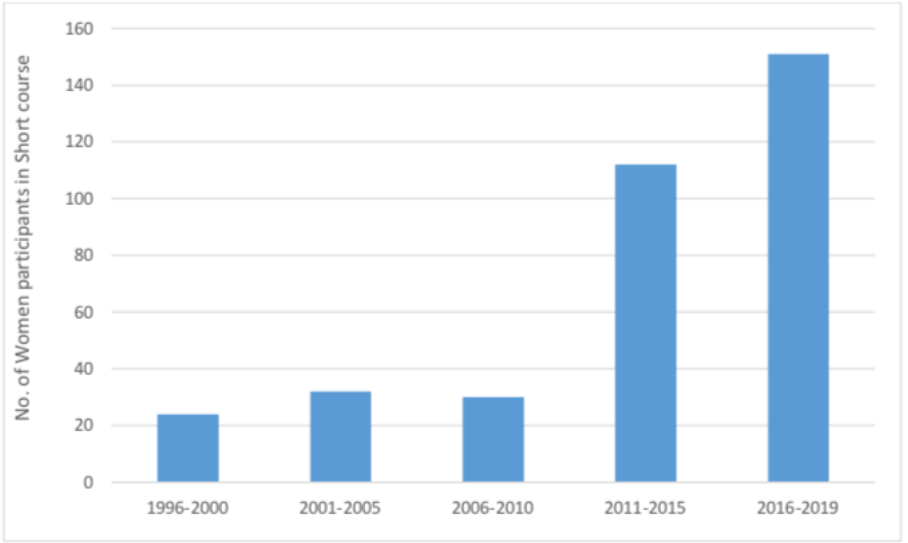
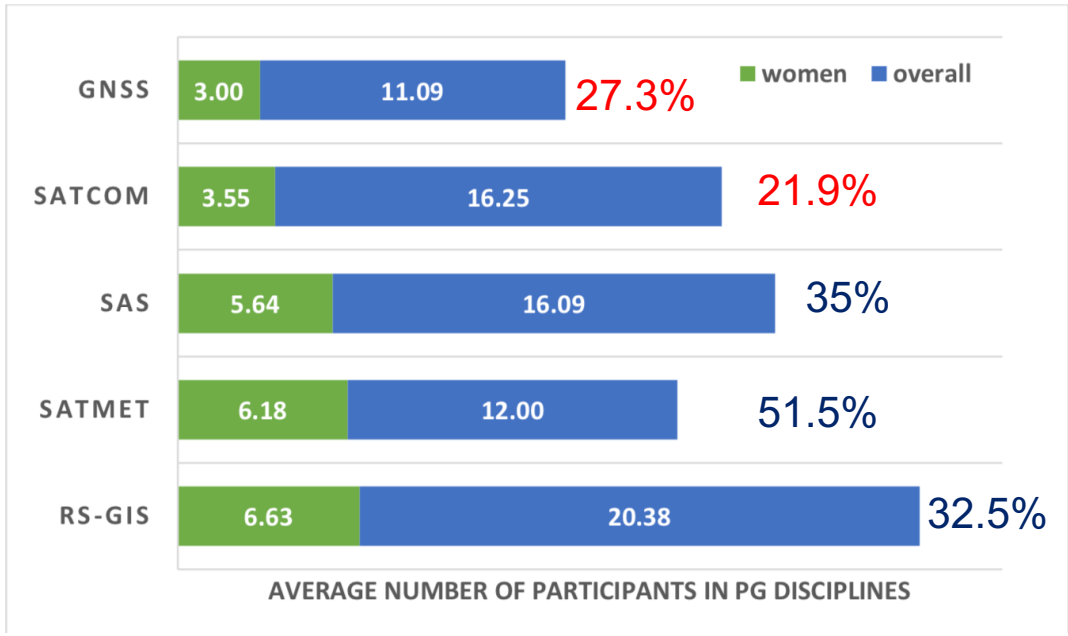
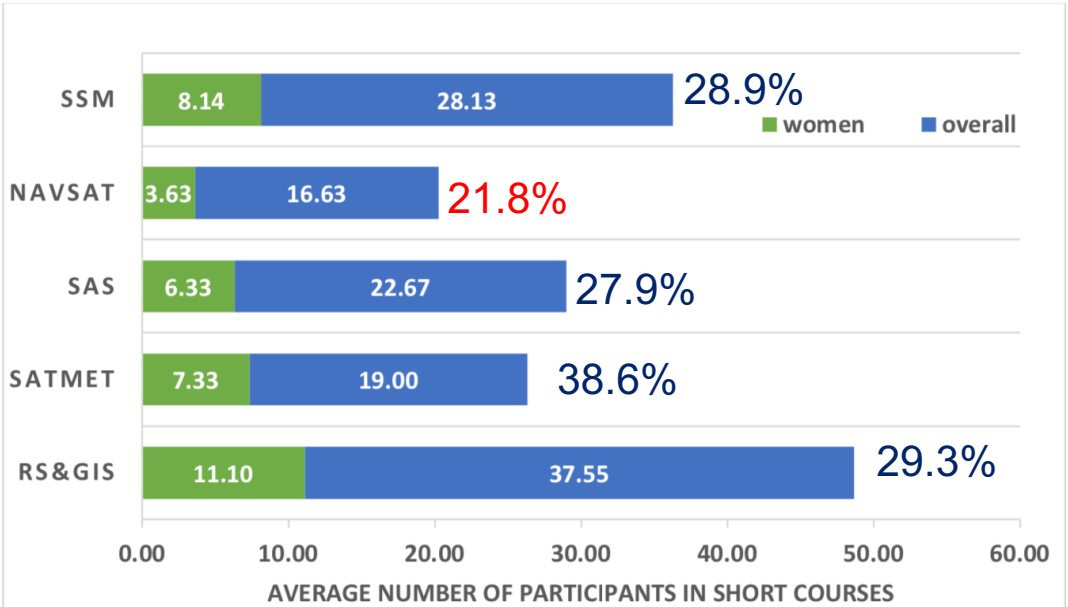


Gender Diversity – Discipline based

- Average number of women participants in a year was estimated discipline wise;
- S/T oriented RS-GIS, SATMET, SAS, SSM attract good participation of women
- E/M oriented SATCOM, GNSS, NAVSAT courses lesser female participation.





S.T.E.M. Apportionment in GSTA

Apportionment of SATCOM Course

Paper No.		Title	Apportionment in Percentage							
			Physics / Concept		Maths		Engineering		Managmnt	
MSAT	I.1	Foundation Course	24		34		42		0	
MSAT	I.2	Communication System	34		29		27		10	
MSAT	I.3	Satellite Technology	38		16		35		12	
MSAT	I.4	Digital signal Processing	27		34		36		4	
MSAT	I.5	Modulation, Multiplexing and Multiple Access	10		20		60		10	
MSAT	II.1	Earth Station Technology	27		24		37		13	
MSAT	II.2	SatCom Services	12		14		45		30	
MSAT	II.3	Applications and Trends in Sat-Com	16		21		40		23	
MSAT	II.4	SATCOM - Planning, Management & Operation	5		9		31		55	
OVERALL % DISTRIBUTION			21		22		39		17	

Sub-regional Competency Analysis in learning GSTA

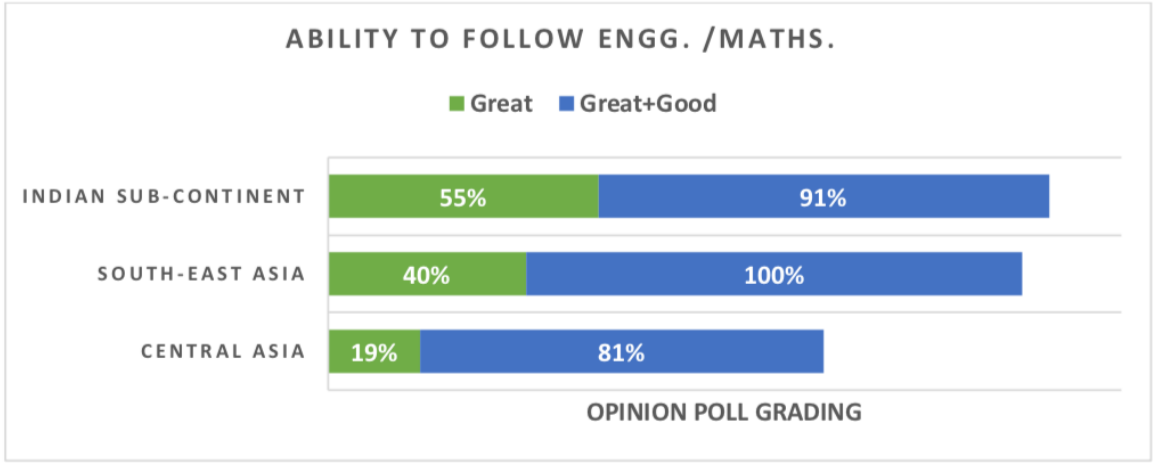
Survey Objectives

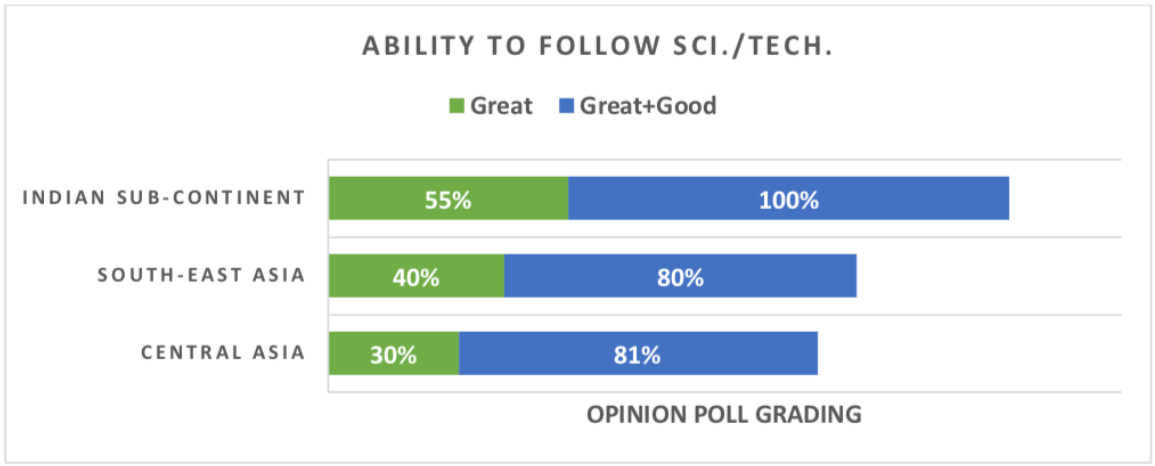
- ***Competence in STEM essential for Space Sci. Tech. courses;***
- ***Survey conducted over 150 (59) participants of 17 countries from 8 courses.***

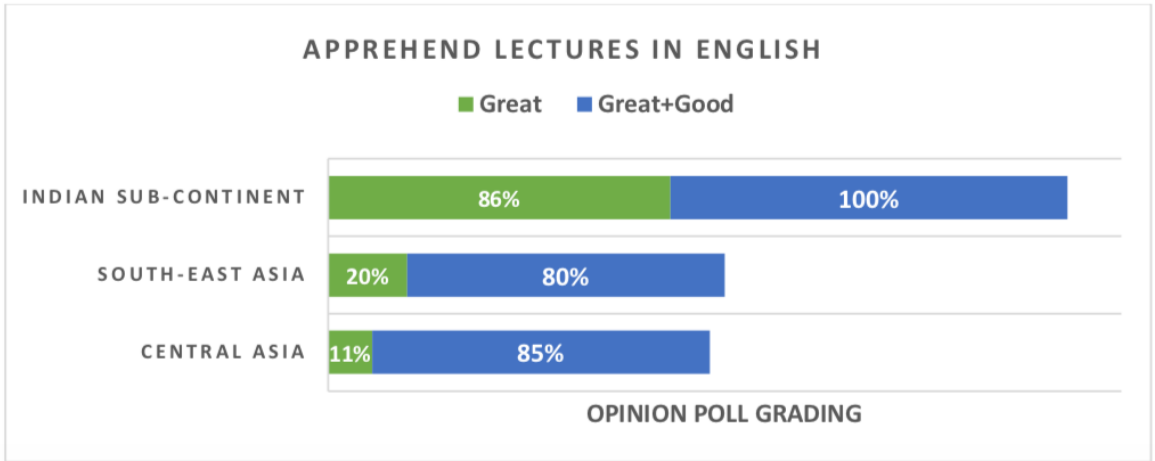
Central Asia (CA): *Kazakhstan, Kyrgyzstan, Mongolia, Tajikistan, Uzbekistan*

Southeast Asia (SEA): *Cambodia, Indonesia, LAO PDR, Malaysia, Myanmar, Philippines, Thailand, Vietnam*

Indian Subcontinent (ISC): *Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Sri Lanka*







Recommendations

- ***Initiating Joint Education Program:***
  - *partnering with institutions of participants' countries* to split LT PGD / Ph.D. courses into modules to minimize stay-away home time for women
- ***Promoting curricula standardisation in STEM in developing region***
  - In a multi-cultural class room environment, reduce gap in curricula on basic elements of STEM across regional educational institutions.
- ***Periodic meetings of regional teachers:***
  - training opportunities for educators to share their STEM initiatives and their experience – both in classroom and practical, field measurements. (APRSAF model – an example)
- ***Learning of English language/lecture material prior to training*:**
  - Regional Govt. organisations to promote importance of English language for cross-border education
  - consider online coaching of the English language to the selected participants by MOOC
- ***Coordinated effort needed by regional organisations in support of effective regional capacity building***

Disclaimer:

- Study and conclusions drawn based on data record available with the RC, but by no means a true representation of the region.
- The survey analysis taken for confidence levels in STEM in sub-regions bas ed only on the responses of those participants from some countries, and not necessarily for other nations in the same region.

Thank you for your kind attention

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